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during when the semiconductor wafer surface is exposed to the atmosphere before the copper diffusion stopper insulating film is formed over the semiconductor wafer surface. As a result, it is possible to prevent the above formations of the CuOx film and the hillock, even if the semiconductor wafer is exposed to the atmosphere before the copper diffusion stopper insulating film is formed over the semiconductor wafer surface. Namely, it is possible to prevent any oxidation of the copper region or the copper interconnection surface on the semiconductor wafer surface even if the semiconductor wafer is exposed to the atmosphere before the copper diffusion stopper insulating film is formed over the semiconductor wafer surface.--.

IN THE CLAIMS:

Amend claim 1 as follows:

Amend C1

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--1. (amended) A method of treating a surface of a semiconductor substrate, said surface of said semiconductor substrate including at least any one of a copper region, a copper based region and a copper alloy region, said method comprising the steps of:

carrying out an anti-corrosion treatment by exposing said surface of said semiconductor substrate to a solution containing an anti-corrosive agent; and

subsequently, separately forming a copper-diffusion stopper insulating film over said surface of said semiconductor substrate.--

Amend claim 18 as follows:

Sub C2
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--18. (amended) A method of forming a semiconductor substrate having at least an interconnection made of a metal selected from the group consisting of copper, copper-based materials, and copper alloys, said method comprising the steps of:

carrying out a chemical mechanical polishing process for forming said at least interconnection in at least a groove in said semiconductor substrate;

carrying out an anti-corrosion treatment by exposing a surface of said semiconductor substrate to a solution containing an anti-corrosive agent; and

subsequently, separately forming a copper-diffusion stopper insulating film over said surface of said semiconductor substrate.--

Add the following new claims:

Sub D1
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--57. (new) The method as claimed in claim 1, wherein said step of carrying out an anti-corrosion treatment comprises flowing the anti-corrosive agent onto the surface of the semiconductor substrate.

--58. (new) The method as claimed in claim 57, wherein said step of forming a copper-diffusion stopper insulating film comprises forming the copper-diffusion stopper insulating film by chemical vapor deposition.